FIG. 1

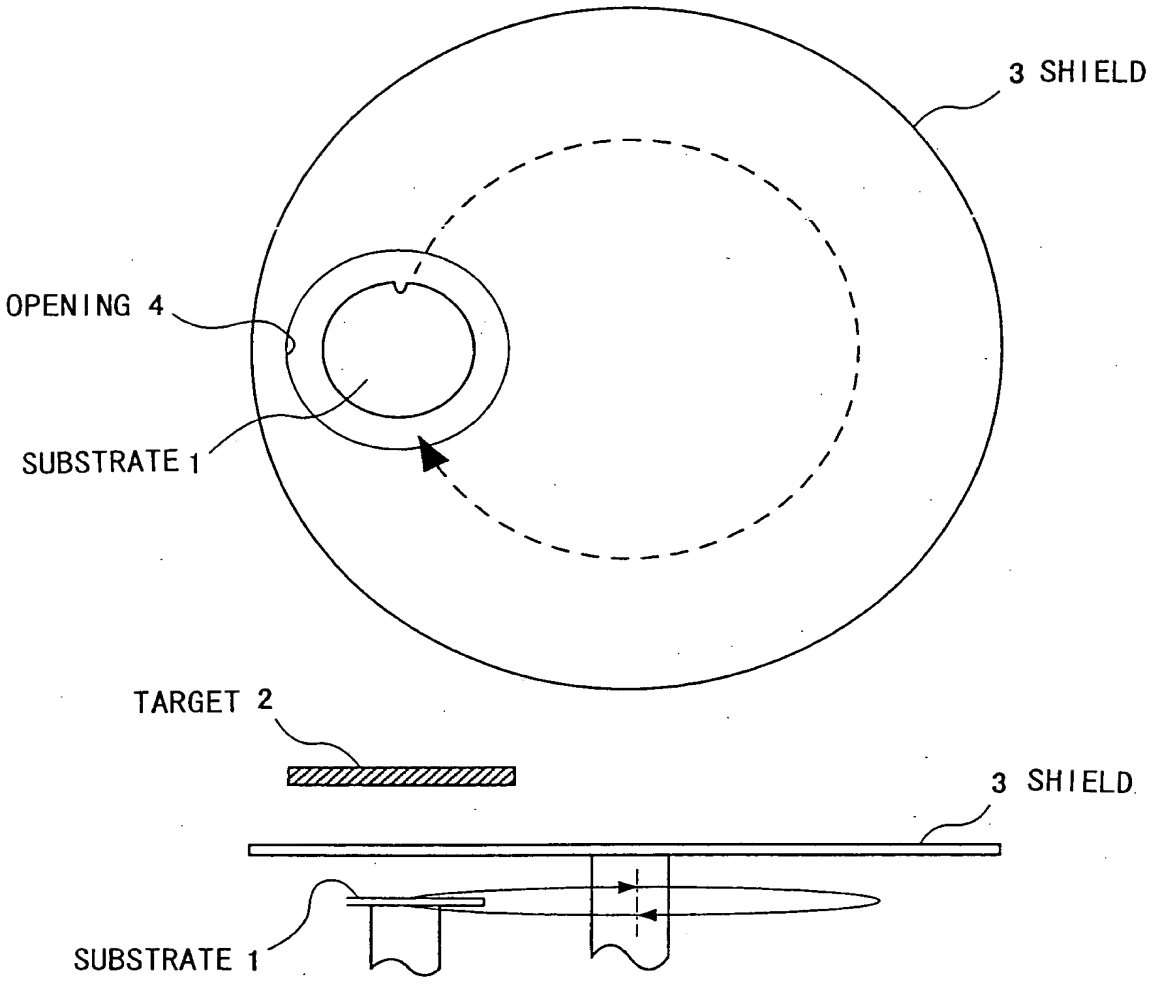


FIG. 2

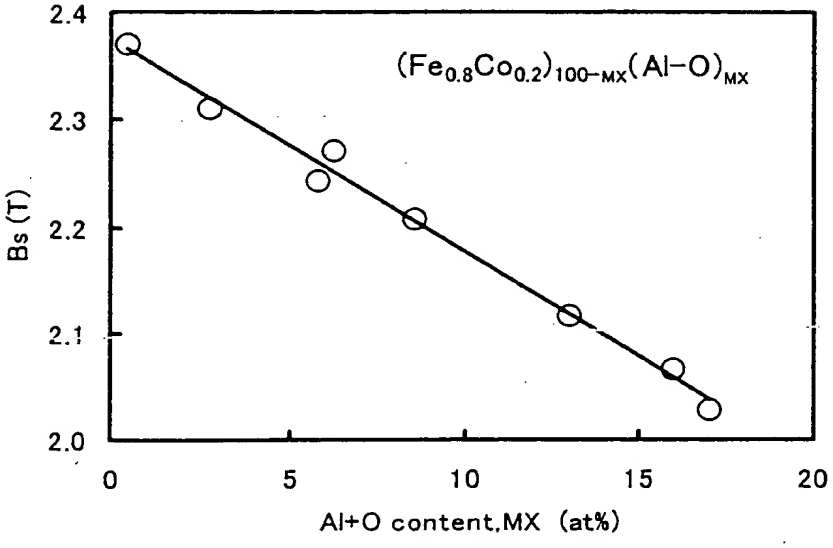

$(Fe_{0.8}Co_{0.2})_{100-MX}(Al-O)_{MX}$
Bs (T)
2.4
2.3
2.2
2.1
2.0
0
5
10
15
20
Al+O content, MX (at%)

FIG. 3

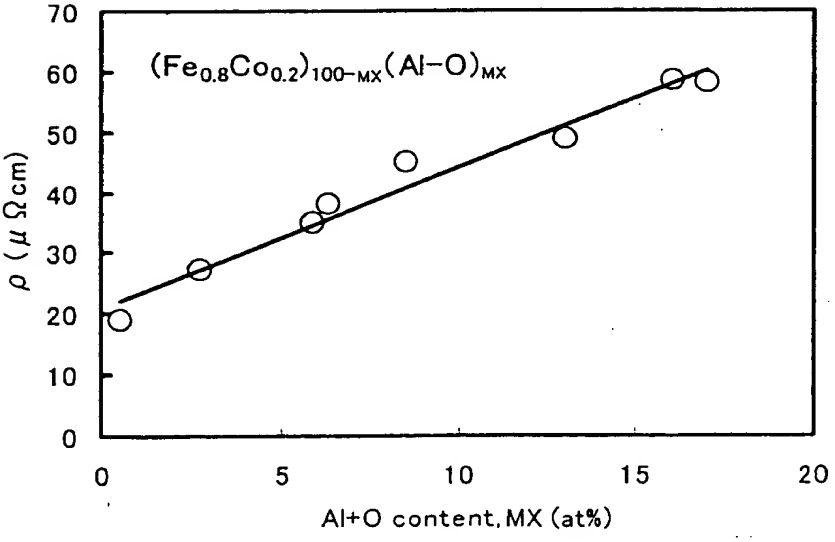

$(Fe_{0.8}Co_{0.2})_{100-MX}(Al-O)_{MX}$
ρ (μΩcm)
70
60
50
40
30
20
10
0
0
5
10
15
20
Al+O content, MX (at%)

FIG. 4

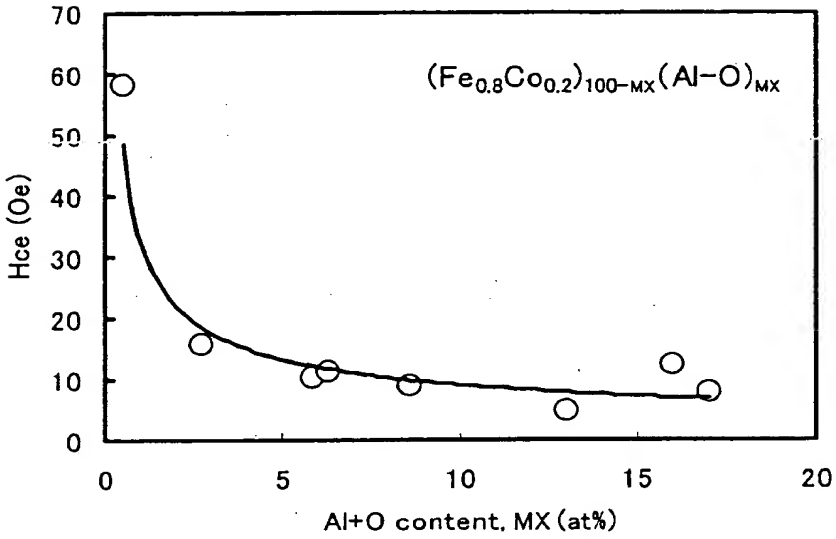


FIG. 5A

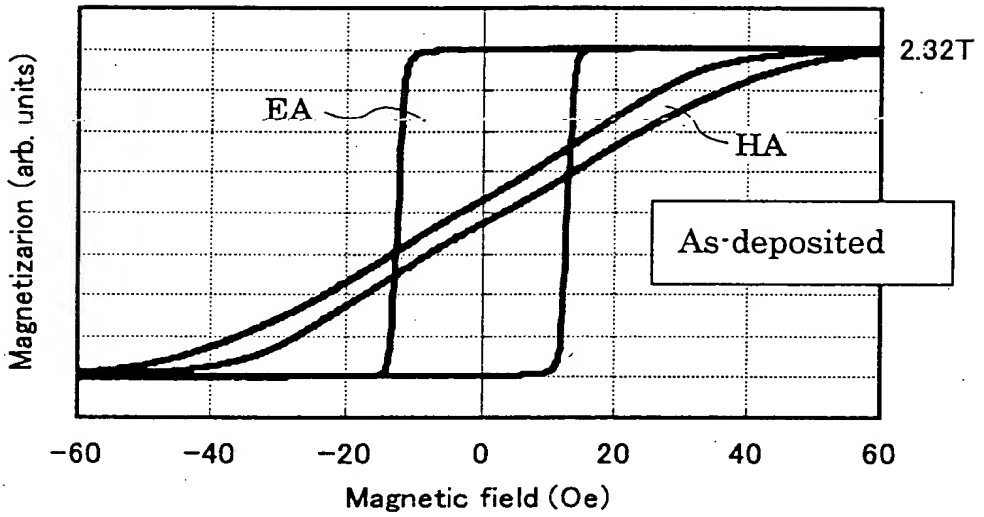

2.32T
EA
HA
As-deposited
Magnetizarion (arb. units)
-60
-40
-20
0
20
40
60
Magnetic field (Oe)

FIG. 5B

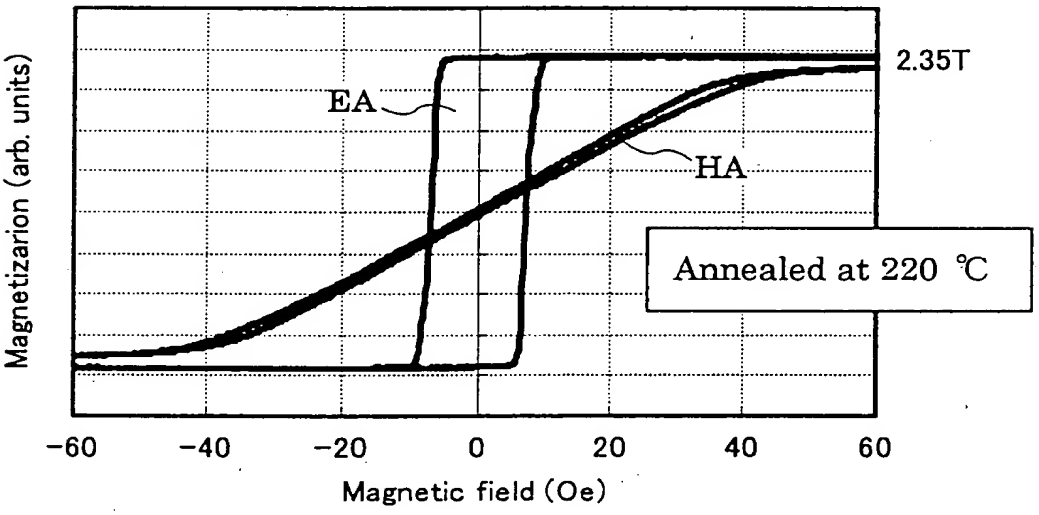

2.35T
EA
HA
Annealed at 220 ℃
Magnetizarion (arb. units)
-60
-40
-20
0
20
40
60
Magnetic field (Oe)

FIG. 6

Film structure		Hce (Oe)
① (Fe77.7Co19.5Al0.6O2.2) 0.5 μm	As-deposited	15
② 〃	Annealed at 220°C	7
③ (Fe77.7Co19.5Al0.6O2.2) 0.5 μm／(Ni50Fe50) 1.6 μm	As-deposited	4
〃	Annealed at 220°C	2
④ (Ni50Fe50) 3nm／(Fe77.7Co19.5Al0.6O2.2) 0.5 μm	As-deposited	10
⑤ (Ni80Fe20) 3nm／(Fe77.7Co19.5Al0.6O2.2) 0.5 μm	As-deposited	8
⑥ (Ni80Fe20) 3nm／(Fe77.7Co19.5Al0.6O2.2) 0.5 μm／(Ni50Fe50) 1.6 μm	As-deposited	1

FIG. 7

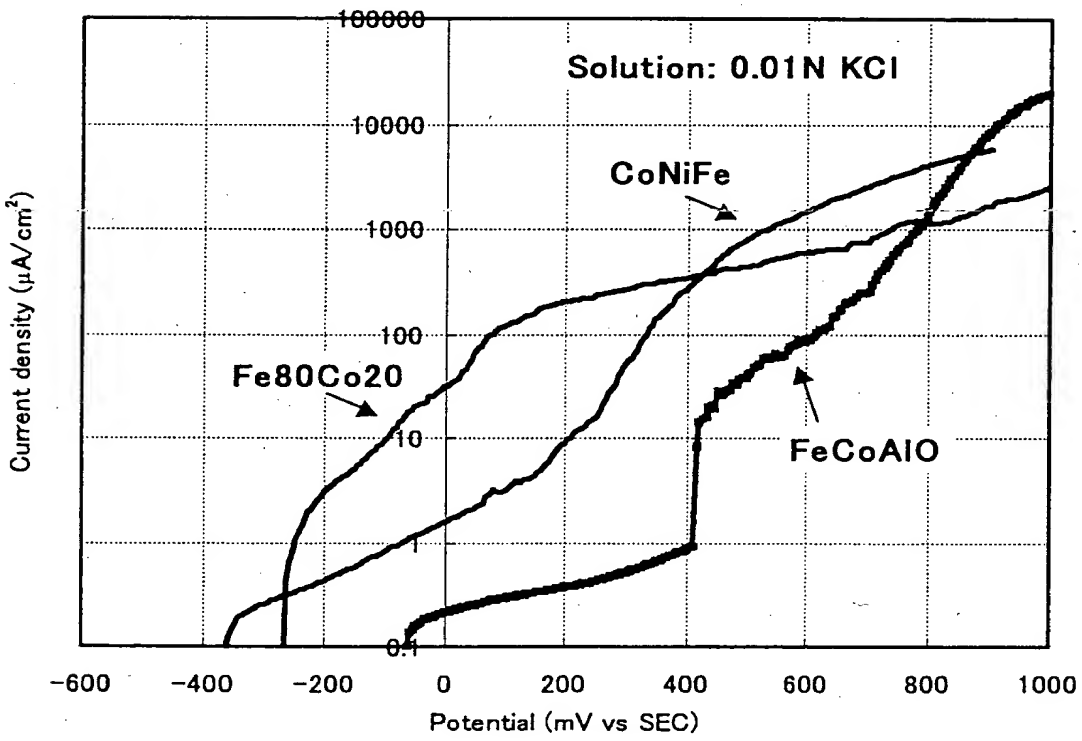

Solution: 0.01N KCl
CoNiFe
Fe80Co20
FeCoAlO
Current density (μA/cm²)
100000
10000
1000
100
10
1
0.1
-600
-400
-200
0
200
400
600
800
1000
Potential (mV vs SEC)

FIG. 8

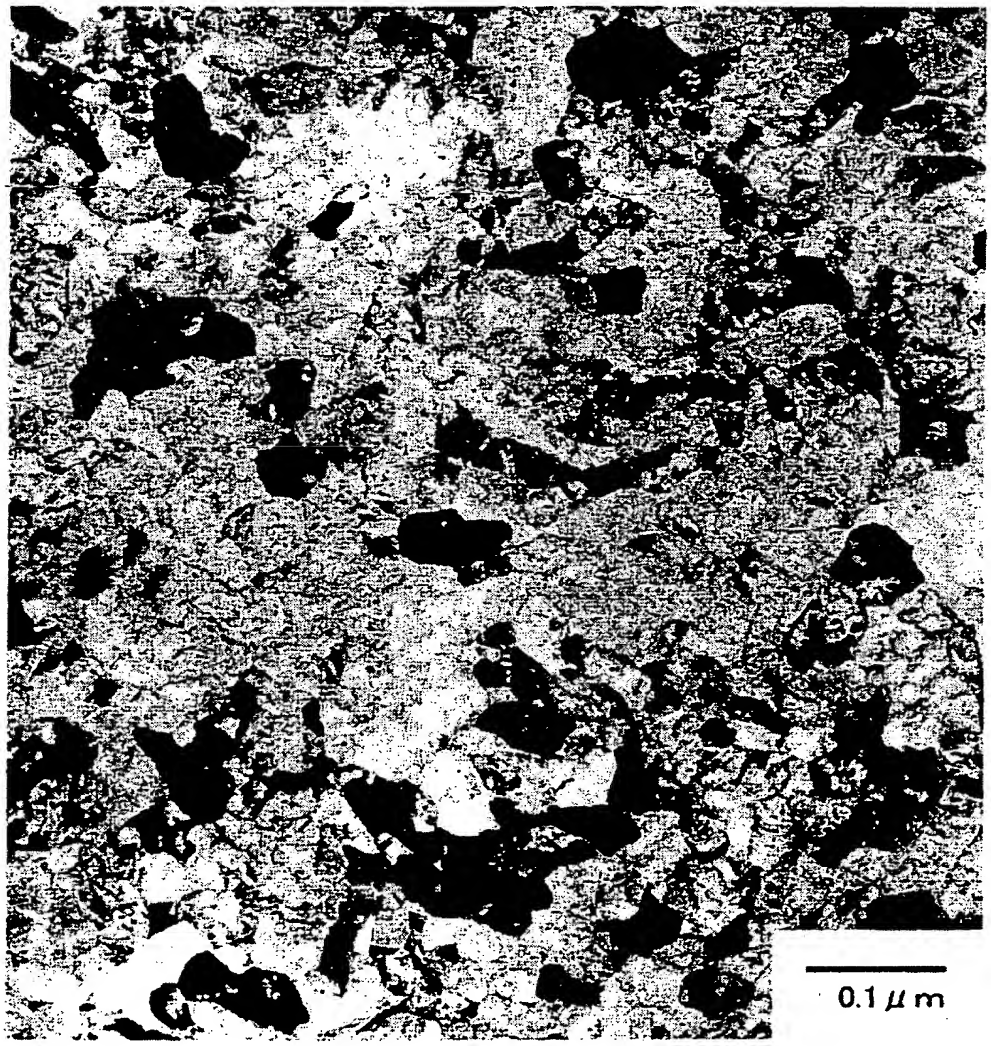


FIG. 9A

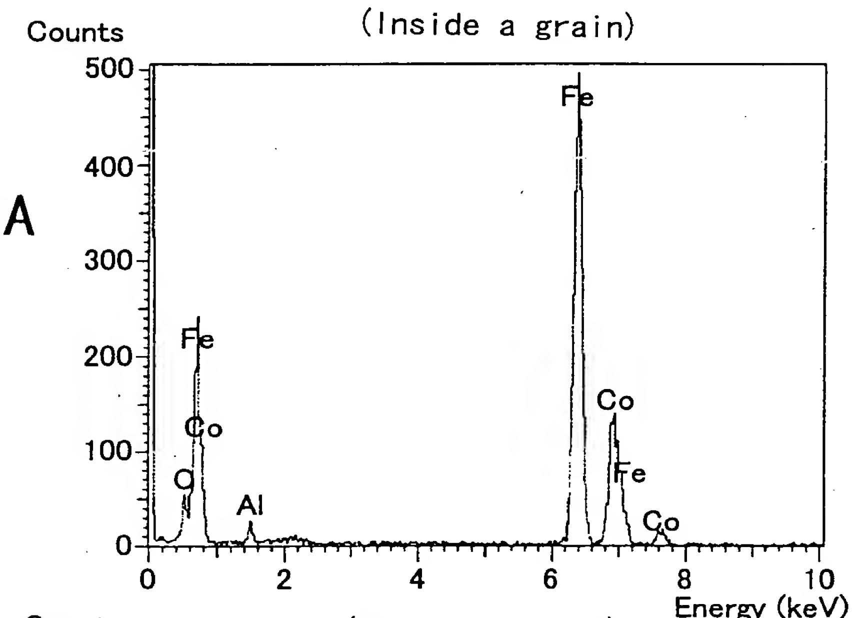


FIG. 9B

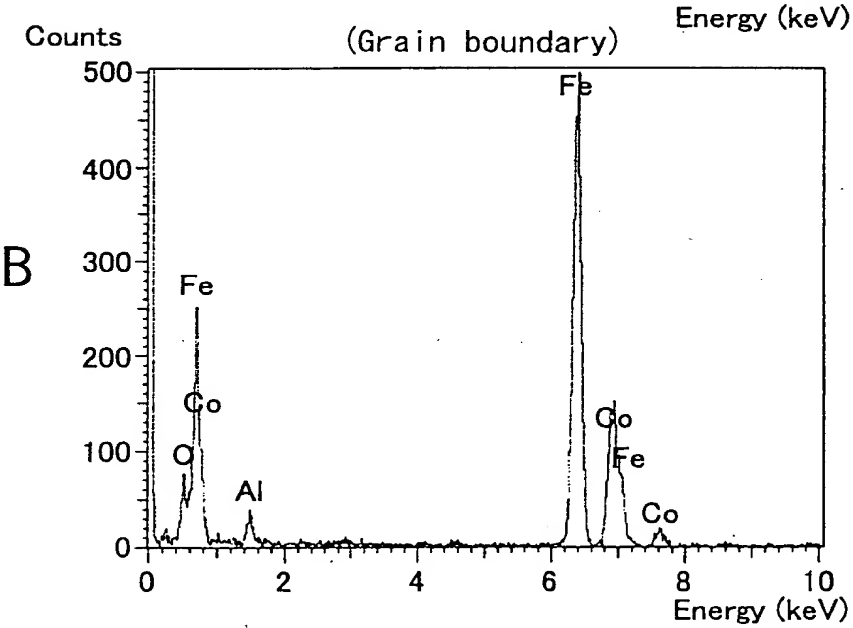


FIG. 10

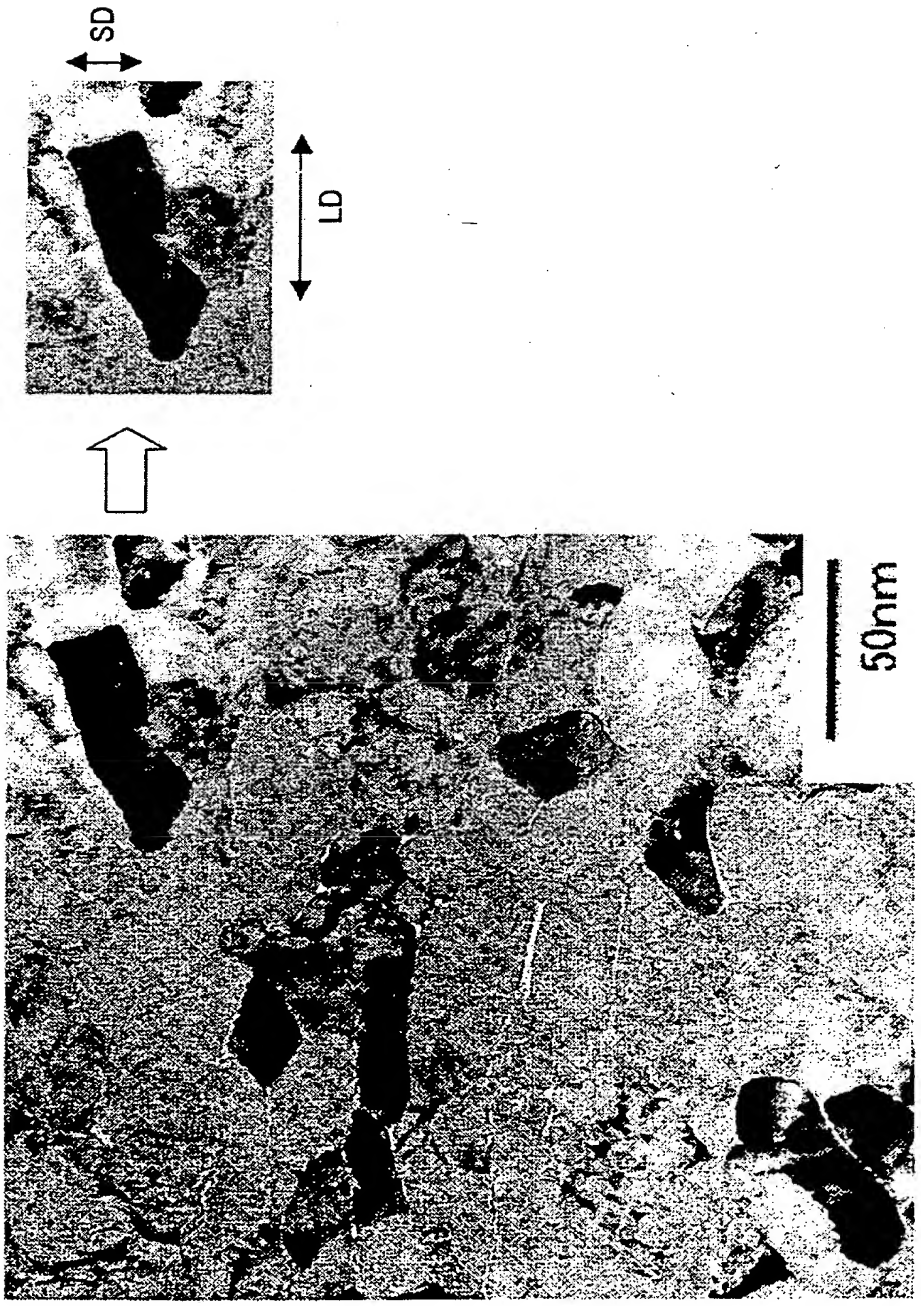
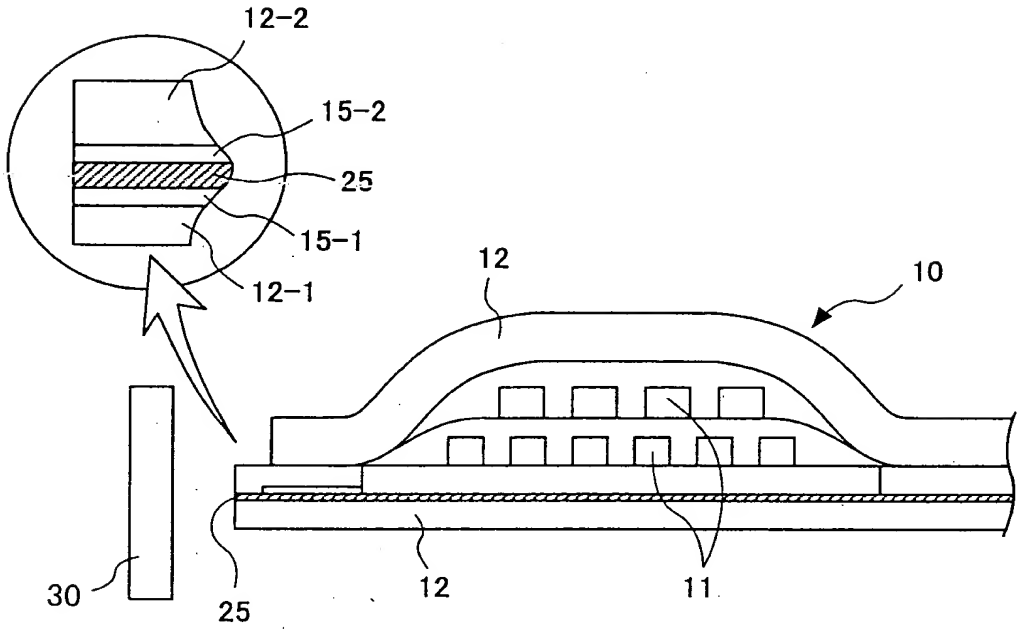


FIG. 11

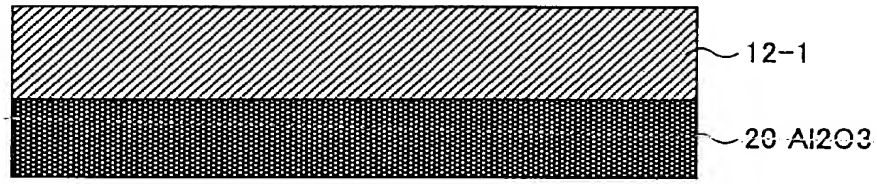
Alloy composition (at%)				Sputtering pressure	Residual stress	Hkh
Fe	Co	Al	O	(Pa)	σ (10^9dyne/cm^2)	(Oe)
71.3	18.1	2.5	8.1	0.5	-5.2	47.1
71.8	18.1	2.3	7.8	0.7	-0.9	25.5

FIG. 12



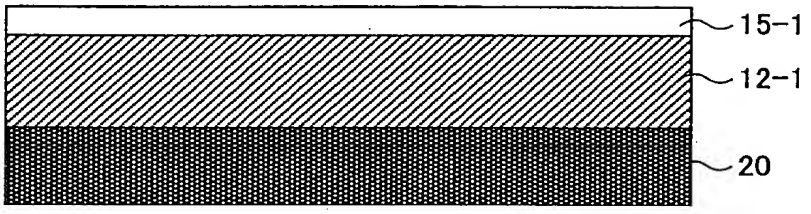
PLATING (NiFe,CoNiFe)

FIG. 13A



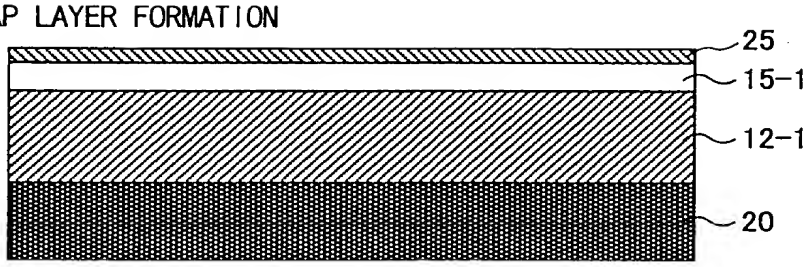
FeCoMo FILM FORMATION BY SPUTTERING

FIG. 13B



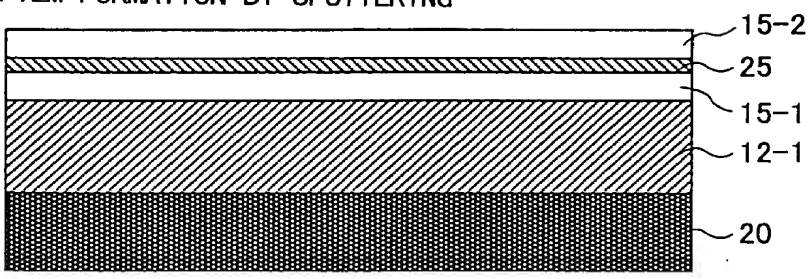
Al_2O_3 GAP LAYER FORMATION

FIG. 13C



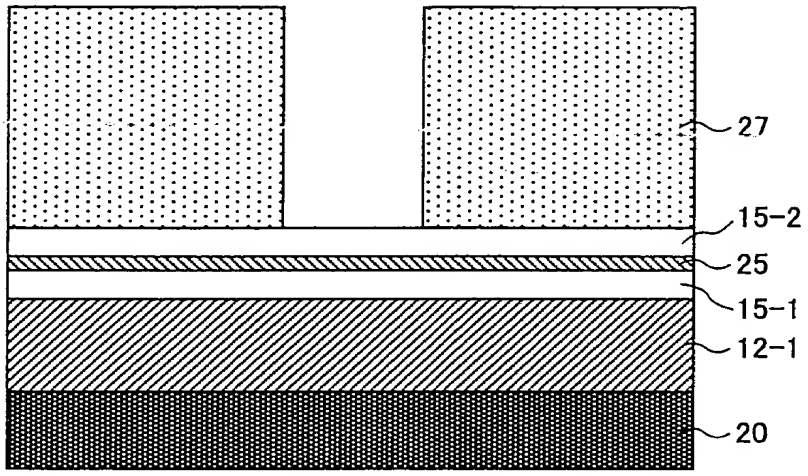
FeCoMo FILM FORMATION BY SPUTTERING

FIG. 13D



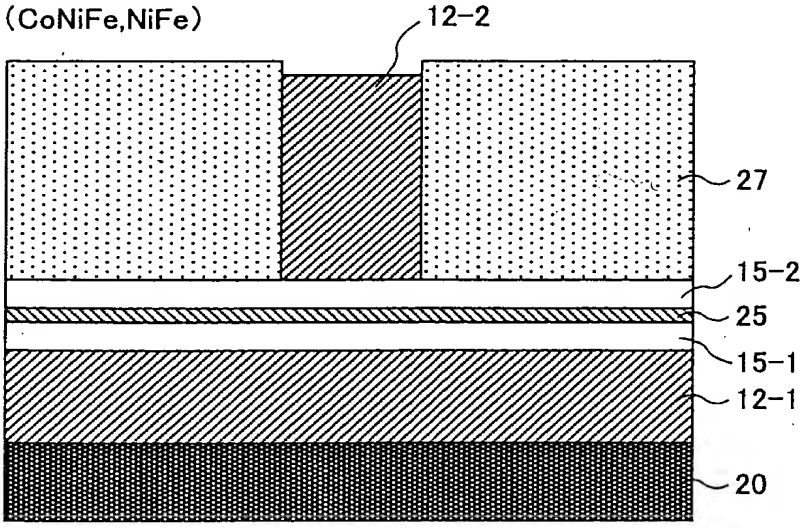
PATTERN FORMATION BY USING A RESIST

FIG. 14A



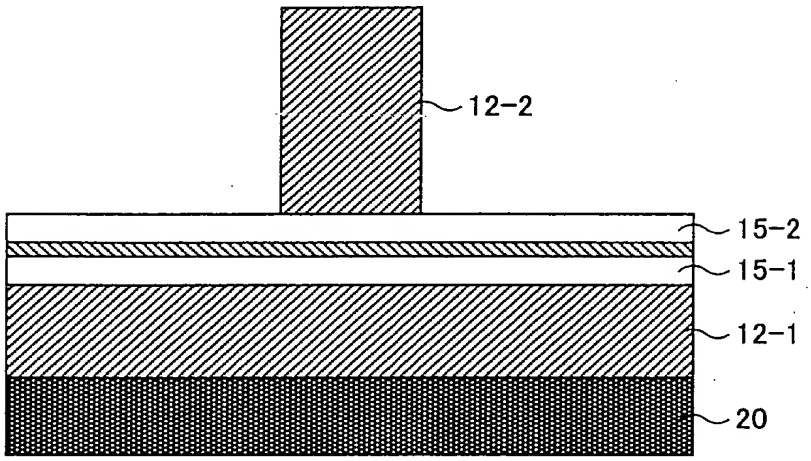
PLATING (CoNiFe,NiFe)

FIG. 14B



REMOVING THE RESIST

FIG. 15A



ETCHING : FORMING AN END-PORTION MAGNETIC POLE

FIG. 15B